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Associate Director-  
Federal Regulatory

00-128  
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September 7, 2000

Mr. Dale Hatfield  
Office of Engineering and Technology  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW, Room 7-A-340  
Washington, DC 20554

Re: **Final Service Disruption Report**

Dear Mr. Hatfield:

Pursuant to the requirements established in the Report and Order in CC Docket No. 91-273 (Amendment of Part 63 of the Commission's Rules to Provide for Notification by Common Carriers of Service Disruptions), **PACIFIC BELL** submits the attached **Final Service Disruption Report** associated with a service disruption in **Napa County and Saint Helena, California** on **August 8, 2000**.

An Initial Service Disruption Report was faxed to the FCC's Monitoring Watch Officer on that date.

Please stamp and return the provided copy to confirm your receipt. Please contact me if you have questions regarding this service disruption.

Sincerely,

A handwritten signature in cursive script that reads "Jonathan J. Boynton". The signature is written in dark ink and is positioned above the word "Enclosures".

Enclosures

CC: Bob Kimball  
Kent Nilsson



A member of the SBC global network

Retention Period: 6 Years

## FCC SERVICE DISRUPTION REPORT

**Type of Report:** ☐ Initial Report ☐ Update ☒ Final

**Occurred:** Date: 08/08/2000 Time: 23:39 PDT ☐ 50,000 or More Customers  
☒ 30,000 - 49,999 Customers  
**Ended:** Date: 08/09/2000 Time: 02:47 PDT ☐ Fire incident  $\geq$  1,000 lines  
Special Offices/Facilities  
**Duration (in minutes):** 188 minutes ☒ 911  
☐ Major/Medium Airport  
☐ NCS Request

**Geographic Area Affected:** Napa County and Saint Helena, California

**Estimated Customers Affected:** 37,100

**Type(s) of Services Affected:** ☐ Local (Intraoffice) ☐ IntraLATA ☐ InterLATA ☐ 800  
☐ LIDB ☐ Operator Services ☐ Interexchange ☐ Switched Access (interoffice)  
☐ Cellular ☐ International ☒ E911/911 ☐ FAA ☐ All

**Estimated Blocked Calls:** 6

**Apparent or Known Cause of the Outage:** At 23:39 PDT, on Tuesday, August 8, 2000 a NEC 560 fiber optic multiplexer in the Vallejo, California central office did not switch three of eleven T-3 carrier systems to protect channels after a SWI 48 circuit card failure. This is a single thread route with no physical diversity. The three systems carried six E911 trunks to the Napa County Sheriff and two E911 trunks to the Saint Helena Police Department Public Safety Answering Points (PSAP's) which were isolated from the E911 tandem due to the outage. The Napa County Sheriff's PSAP serves approximately 32,000 lines and the Saint Helena Police Department PSAP serves approximately 5,100 lines. Contingency plans to route 911 calls to alternate PSAP's could not be implemented due to loss of logging channels to the affected offices.

There was local media coverage of the event. Pacific Bell was not made aware of any life threatening events that occurred during the outage.

Root Cause is Hardware Failure - Processor Community Failure.

**Name and Type of Equipment Involved:** NEC 560 Fiber Optic Multiplexer

☐ Official File Copy, If Checked In Red

**Specific Part of Network Involved:** E911

**Methods used to Restore Service:** Replaced defective SWI 48 circuit card in the NEC 560 fiber multiplexer.

**Steps Taken to Prevent Recurrence:**

1. Orders were written to diversify E911 trunks in Vallejo and St. Helena. Orders were completed on Wednesday, August 16, 2000.
2. Supplier (NEC) has been contacted for support on Product Change Notice (PCN) 907129 to replace spare and working SWI 48 circuit packs in all NEC 560 Fiber Optic Multiplexers.
3. A Transport Technical Support (TTS) Flash was distributed to all transport personnel in Pacific and Nevada Bell notifying them of the problem and the solution.

**Applicable Best Practice:** Pacific Bell reviewed the Network Reliability: A Report to the Nation, Section F, dated June 1993 and Network Reliability: The Path Forward, Focus Group IV, Essential Communications During Emergencies, dated April 1996 and evaluated all recommendations and best practices. Based on the Root Cause analysis the most appropriate focus area is:

Network Reliability: A Report to the Nation

Reference: 6. Countermeasures and Recommended Best Practices

- The key element in most of the best practices cataloged in this report is diversity. The following is a set of working criteria used to define diversity:
  - A diverse network element (e.g., transport facility) is immediately available and there is nearly instantaneous restoration of services (full or partial).

Network Reliability: A Report to the Nation

Reference: 6.1.1 Diverse Routing of Interoffice Facilities

- When circuits are rearranged, unless special indications within the provisioning system (e.g., TIRKS) are made to keep circuits diverse, chances are high that circuits that were originally designed to be diverse will be collapsed into non-diverse facilities.

Network Reliability: The Path Forward

Reference: 6.1 Best Practice ES01 Diverse Interoffice Transport Facilities

- The ECOMM Team recommends diversification of 9-1-1 circuits over multiple, diverse interoffice facilities.

**Best Practices Used:** Pacific Bell observes those practices that are consistent with providing outstanding customer service.

**Analysis of Effectiveness of Best Practices:** The supplier was notified that support is needed to implement the PCN to change out the SWI 48 circuit pack in all NEC 560 Fiber Optic Multiplexers. Circuit rearrangement orders were issued and completed to provide carrier diversity.

**Prepared by:** Jim Lankford  
**Date submitted:** 09/07/2000

**Telephone:** 210-886-4589  
**Time:** 09:40 CDT



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128

Retention Period: 5 Years

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Occurred: Date: 08/08/2000 Time: 23:39 PDT

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☐ Fire Incident ≥ 1,000 lines  
Special Offices/Facilities  
☒ 911  
☐ Major/Medium Airport  
☐ NCS Request

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Estimated Customers Affected: 38,000

Type(s) of Services Affected: ☐ Local (Intraoffice) ☐ IntraLATA ☐ InterLATA ☐ 800  
☐ LIDB ☐ Operator Services ☐ Interexchange ☐ Switched Access (Interoffice)  
☐ Cellular ☐ International ☒ E911/911 ☐ FAA ☐ All

Estimated Blocked Calls: Under Investigation

**Apparent or Known Cause of the Outage:** At 23:39 PDT, on Tuesday, August 8, 2000 a NEC 560 fiber optic multiplexer in the Vallejo, California central office did not switch 3 T-3's to protect channels after a SWI 48 circuit card failure. The Napa County Sheriff and Saint Helena Police Department Public Safety Answering Points (PSAP's) were affected by the outage. Contingency plans to route 911 calls to alternate PSAP's could not be implemented due to loss of logging channels to the affected offices.

There was no media coverage of the event.

Name and Type of Equipment Involved: NEC 560 Fiber Optic Multiplexer

Specific Part of Network Involved: E911

Methods used to Restore Service: Replaced defective SWI 48 circuit card in the NEC 560.

Prepared by: Jim Lankford  
Date submitted: 08/09/2000Telephone: 210-886-4589  
Time: 08:25 CDT